

REMARKS

The Examiner's rejection of claim 1-19 under 35 U.S.C. § 103(a) for being unpatentable over the Hamaguchi U.S. Patent No. 6,626,266 in view the Heikkinen U.S. Patent No. 4,756,388, Damien U.S. Patent No. 5,651,245 and Wilcox U.S. Patent No. 4,624,097 and, for some claims, further in view of De Angelis et al. U.S. Patent No. 5,566,786 and/or Aulanko U.S. Patent No. 5,429,211 and/or Honda U.S. Patent No. 4,591,025 and/or Hollowell International Application 99/43595, as these rejections may be attempted to be applied against the claims, are respectfully traversed.

In support of this traverse, it is pointed out that the Examiner seem to apply some kind of piece meal approach against the pending claims and uses four documents (Wilcox, De Angelis, Heikkinen and Hamaguchi) to gather together or assemble the features of applicant's claim 1. Further, the Examiner appears to misunderstand some of the the teachings of the references cited.

In this respect, it is noted that the De Angelis US Patent No. 5,566,786 teaches away from using steel wire ropes. Instead of steel wire ropes, De Angelis teaches the use of synthetic fiber cables in elevators. Thus the teaching "For the same load carrying capacity, the diameter of a synthetic fiber cable 1 can therefore be reduced in comparison with a conventional steel cable." is not transferrable to steel fire ropes. De Angelis is actually silent about the cable diameter values, particularly there is no mention in De Angeles of cables being about 7 mm diameter or in a diameter range of 5-7 mm. Applicant does not understand how the Examiner has derived such information from De Angelis. According to applicant's understanding, the sheathed synthetic fiber cable of De Angelis requires, in thinner cables, a larger proportion of the cross-section than in thicker cables. Applicant doubts that only in relative thick cables (clearly more than 7mm diameter) the improved load carrying capacity can take place.

Wilcox shows certain test results comparing different ropes in circumstances that does not relate to elevators. In the table, given safety factors actually are much lower than used in elevators. In the elevators, the minimum

safety factor requirement is 12. Wilcox certainly does not teach to apply arrangements of column 3 lines 5-23 to practical elevators.

The double wrap called for in applicant's claim 1 improves traction in the machine and compensates for any poor traction of the cables in the semicircular grooves. The semicircular grooves decrease wear on the cables and compensates for any additional stress on the cable by reason of the low ratio of less than 40 between the drive sheave diameter and the cable diameter.

The advantage of this construction is that the small diameter ratio and small diameter cable enable the use of a small diameter traction sheave. This results in a lower torque requirement for the motor which results in a smaller, less costly and more easily installed elevator machine (in the elevator shaft).


Applicant submits that elevator construction defined in the claims and the advantages, described above, obtained with this construction are novel and unobvious from the references cited by the Examiner, considering them individually or in combination.

In summary, applicant submits that upon reconsideration of the specification, claims and drawings, it will be clear that the claims are distinguished over the prior art cited, and that the application is otherwise in condition for allowance. An early and favorable action to that end is requested.

Respectfully submitted,

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